APPENDIX B

Upper River Statement of Work
relating to the Sheboygan River and Harbor Superfund Site

STATEMENT OF WORK FOR
THE REMEDIAL DESIGN AND REMEDIAL ACTION
FOR THE UPPER RIVER SEDIMENT, FLOODPLAIN SOIL, AND
TECUMSEH PRODUCTS COMPANY PLANT SITE
AT THE
SHEBOYGAN RIVER AND HARBOR SUPERFUND SITE
SHEBOYGAN COUNTY, SHEBOYGAN, WISCONSIN

I. PURPOSE

This Upper River Statement of Work (URSOW) sets forth the requirements for implementation of the remedial action set forth in the Record of Decision (ROD), as signed by the Superfund Director of U.S. EPA Region 5 on May 12, 2000, for the Sheboygan River and Harbor Superfund Site (Site). This URSOW addresses only the upper river, floodplain soil, and Tecumseh Products plant site components of the remedial action for the Site. The Settling Defendant shall follow the ROD (as further delineated in this URSOW), the Consent Decree to which this URSOW is attached, this URSOW, the approved Remedial Design Work Plans, the approved Remedial Action Work Plans, U.S. EPA Superfund Remedial Design and Remedial Action Guidance and any additional guidance provided by U.S. EPA in submitting deliverables for designing and implementing the remedial action at these portions of the Site.

II. DESCRIPTION OF THE REMEDIAL ACTION/PERFORMANCE STANDARDS

The Settling Defendant shall design and implement the Upper River Remedial Actions to meet the Performance Standards and specifications set forth in the ROD (as further delineated in the URSOW), the Consent Decree and this URSOW. First, the Settling Defendant shall develop a Remedial Design Work Plan for Upper River Work. To achieve proper source control and to avoid potential impacts from the Tecumseh Products plant site, Upper River soft sediment recharacterization and the Upper River Remedial Actions will be phased. Phase I will address the Tecumseh Products plant site groundwater, bank soils, sediment Area 1 (as designated in the final Alternative-Specific Remedial Investigation ("ASRI") Report), the source materials with significantly elevated PCB concentrations, and any other significant source areas or preferential pathways identified during the pre-design investigation of the plant site (hereinafter called "Plant Site and Source Materials"). Phase II will address the remainder of the Upper River Remedial Action (hereinafter called the "Soft Sediments and Floodplains"). Remedial design and remedial action work at the Plant Site and Source Materials (Phase I) will be substantially completed (i.e., all source control activities will have been completed) prior to remedial design and remedial action work for the Soft Sediments and Floodplains (Phase II). Once EPA has determined that Phase I remedial design and remedial action work has been substantially completed, EPA will send the Settling Defendant a Notice of Authorization to Proceed with the Phase II remedial design and remedial action work.

A. Groundwater and Additional Source Investigation and Control

The Settling Defendant shall install additional monitoring wells to further define the lateral and downgradient extent of ground-water that contains PCBs at Tecumseh's Sheboygan Falls plant. The wells at the plant will be used to assess hydrogeologic parameters at the plant site, including horizontal and vertical hydraulic gradients. The monitoring well borings will be used to further assess the stratigraphy of the subsurface at Tecumseh's Sheboygan Falls plant. The Settling Defendant shall collect the information necessary to conduct an evaluation of natural attenuation of PCBs in the ground-water.

Investigations done by the Settling Defendant in 1999 indicated high levels of PCBs in the river bank and certain near-shore sediments/soils in the vicinity of the plant. In conjunction with evaluating ground-water to surface water migration, the Settling Defendant shall perform further investigations to identify potential PCB sources to the Sheboygan River. This will include an investigation of existing sewer lines that may act as preferential pathways for PCBs into the river. If U.S. EPA determines that there are continuing sources, as a result of these investigations, the Settling Defendant shall remove/control remaining sources to the river from the Tecumseh Plant facility, including sediment Area 1 (as designated in the final Alternative-Specific Remedial Investigation Report) and the river bank soils and near-shore sediments/soils with elevated PCB concentrations that the Settling Defendant identified in 1999.

The Settling Defendant shall conduct long-term monitoring of Tecumseh's Sheboygan Falls plant ground-water on a semiannual basis for the first five years, and then on a frequency appropriate based on the results of the groundwater investigations. If U.S. EPA determines that ground-water at the Tecumseh plant is discharging PCBs to the Sheboygan River at levels requiring active remediation, the Settling Defendant shall implement a remedy as generally described in the ROD to eliminate/control the pathway to the river.

B. Recharacterization and Removal of Soft Sediment in the Upper River

1. Recharacterization and Designation of Soft Sediment Deposits

After the ground-water and additional source investigation has been completed and any remaining sources to the river from the Tecumseh Plant facility have been substantially addressed, the Settling Defendant shall recharacterize the upper river to document the current locations, surface weighted average concentration (SWAC), and PCB mass of the soft sediment deposits. The Settling Defendant's recharacterization of the soft sediment shall consist of probing followed by sediment sampling. Consistent with the Remedial Investigation (RI), a soft sediment deposit shall be defined as an area containing a soft

sediment depth of 1 foot or greater as determined by probing. PCB mass and SWAC shall then be calculated for each soft sediment deposit, using the same methodology presented in the Feasibility Study (FS) for the Site. In addition, recharacterization efforts performed by the Settling Defendant shall include GPS station location information, be delivered in decimal degrees e-format, as well as U.S. EPA specified e-format of the data.

Based on the recharacterization data, the Settling Defendant shall designate specific soft sediment deposits for removal. The designation of soft sediment deposits for removal will follow an approach like that used in Exhibit 4 (Sheboygan River and Harbor Superfund Site Upper River SWAC Calculation) of the ROD. In designating soft sediments for removal, the Settling Defendant may assume that dredging of a soft sediment deposit will remove 95% of the PCB mass calculated to be present in that deposit. The Settling Defendant may count the estimated PCB mass in all capped / armored areas that are subject to removal under this URSOW toward the PCB mass removal goal in the ROD. In addition to estimated cumulative PCB mass removal and estimated cumulative PCB SWAC reduction, relevant considerations for the grouping and selection of soft sediment deposits for removal may include, but are not limited to: accessibility of particular deposits; contributions of particular deposits to estimated cumulative mass or SWAC reduction or incremental risk reduction relative to the incremental effort needed to address those deposits; and any other relevant factors raised by the recharacterization. If Settling Defendant proposes to leave any capped area in place as part of the final remedy, Settling Defendant shall provide a detailed technical justification supporting such proposal to the Agency for review and approval. Any such approval will require either an Explanation of Significant Differences or a ROD Amendment by the Agency before it becomes finally effective.

2. Sediment Removal

Removal requirements: The Settling Defendant shall remove the soft sediment deposits that have been designated for removal as provided above. Removal of a soft sediment deposit will be deemed complete when 3-4 inches, on average, of residual sediment remains in the deposit as determined by sediment probing after dredging or after three passes with conventional dredging equipment (or an equivalent level of effort with alternative dredging equipment), whichever goal is achieved first. If EPA determines that achieving these goals in a particular soft sediment deposit or set of deposits is impracticable or undesirable, EPA may deem sediment removal complete when more than 3-4 inches of residual material remains in the deposit or fewer than three dredge passes have occurred. In consultation with EPA, the Settling Defendant may elect to conduct more than three dredging passes in an attempt to achieve a residual sediment level of less than 3-4 inches.

Post-removal sampling and evaluation: Prior to any sediment removal, based on the recharacterization data, the Settling Defendant shall define a relationship between PCB mass and sediment volume for each deposit selected for removal. The Settling Defendant shall use this relationship and the post-dredging sediment probing data (residual sediment depth) to track cumulative PCB mass removal as groups of deposits are dredged (grouped by access area, construction season, or another appropriate method). To determine changes in SWAC, the Settling Defendant shall take representative grab samples of residual sediment after dredging has been completed in each deposit area, composite these grab samples, and have the composite sample analyzed to provide the post-dredging SWAC of the deposit.

As stated in the ROD, the goals of the soft sediment response action are to remove 88% of the PCB mass in the Upper River soft sediment deposits and to achieve an Upper River soft sediment SWAC of 0.5 ppm PCBs, on average. As provided for in the Consent Decree, the Settling Defendant may provide information to EPA, including but not limited to post-dredging data from a significant number of soft sediment deposits addressed under this URSOW, indicating that dredging is not achieving and is unlikely to achieve an average soft sediment SWAC equal to or less than 0.5 ppm PCBs or 88% mass removal.

At the end of each construction season, the Settling Defendant and EPA shall meet to discuss the progress of the Upper River soft sediment remediation in relation to the goals and criteria of the ROD and this URSOW. Based on this evaluation, the Settling Defendant and EPA may refine the scope of remediation planned for the subsequent construction season.

Silt curtains: Single tiered geotextile silt curtains, or another technology with comparable effectiveness and cost-effectiveness, will be used to reduce downstream sediment transport during dredging. The Defendant shall monitor for increased turbidity caused by the dredging.

Sediment disposal: The Settling Defendant shall dewater and dispose of dredged sediment removed from the Upper River. Sediments containing PCBs greater than or equal to 50 ppm will be transported and disposed of at an approved in-state Wisconsin landfill or an out-of-state facility authorized to accept PCBs over 50 ppm. Material containing less than 50 ppm PCBs will be disposed at an appropriate in-state or out-of-state solid waste disposal facility. Rocks and cobbles may be separated for reuse in bank stabilization.

Water treatment and discharge: Water from sediment dewatering and equipment/personnel decontamination operations will be collected and treated on-site before discharge to the river. Effluent discharge limitations, if necessary, are anticipated to be monthly averages established under Wisconsin

Administrative Code NR 106.06(6). Effluent will be sampled for PCBs as needed to document compliance with effluent discharge limitations.

Alternative technologies: Because of ongoing developments in remedial technologies, newly identified alternative methods and/or equipment may be used, with U.S. EPA approval, during the remediation process to improve the removal efficiency and cost effectiveness of the project.

C. Floodplain Soil Removal

The Settling Defendant shall perform additional sampling in floodplain areas FPR-3, FPL-4, FPR-5, FPR-6, FPR-7, and FPL-8 to further refine the extent of surficial floodplain soil containing PCBs greater than 10 ppm. (Given its location, FPL-11 shall be deferred to such time as Middle River recharacterization occurs.) The additional sampling may employ field screening techniques supplemented as appropriate by conventional laboratory Aroclor PCB analyses.

Based on the recharacterization data, the Settling Defendant shall address areas in the above floodplain areas containing PCB concentrations greater than 10 ppm. In such areas, the Settling Defendant shall balance the remediation of PCB-contaminated soil with maintaining existing high quality ecological habitat. Criteria that will be used to select areas for soil remediation include, but are not limited to, the following: (1) the magnitude of the PCB concentrations observed; (2) the size of the area containing greater than 10 ppm PCBs; (3) the degree to which the area-averaged PCB concentration exceeds 10 ppm; (4) the quality and value of existing habitat; (5) the extent and duration of habitat disruption that would be associated with remediation, including potential aesthetic impacts; (6) potential impacts on river bank stability; (7) the accessibility of the area, including consideration of the potential ecological impacts associated with creating access; (8) implementability considerations; (9) the incremental risk reduction from remediation of an area relative to the incremental effort needed to address that area; and (10) any other relevant factors raised by the recharacterization. U.S. EPA will determine if remediation can consist of soil excavation or other less intrusive techniques in appropriate locations, such as river bank stabilization or other forms of isolation (with appropriate cover material), consistent with the ROD objective of removing potential sources of wildlife exposure to PCBs. Floodplain remediation will be coordinated with sediment remediation in adjacent reaches of the Upper River.

The Settling Defendant shall obtain access from third parties as provided in the Consent Decree, and shall construct access roads as needed. Upon completion of soil removal activities, the Settling Defendant shall restore the affected areas in an appropriate manner, including replacement of excavated soil, seeding, restoration of any damaged fencing, and planting of saplings. Consistent with the approach

taken for sediments, the Settling Defendant shall determine the concentration of PCBs in the soil and select the appropriate disposal facility based on the concentrations observed.

D. Monitoring

The Settling Defendant shall monitor PCB concentrations in fish in the upper river, generally consistent in scope with the Interim Monitoring Program, until fish consumption advisories for the upper river based on PCBs are lifted by the Wisconsin Department of Health, fish fillet concentrations of PCBs decrease to the target levels specified in the ROD (p. 32), or for 30 years, whichever comes first. The Settling Defendant shall collect adult smallmouth bass, walleye, trout, and catfish, and juvenile white suckers or carp, for PCB analysis. The Settling Defendant shall document in the monitoring report if it was unsuccessful in collecting certain fish species. Fish monitoring shall occur annually. The fish monitoring program may be adjusted if it is demonstrated that less frequent sampling still provides the information necessary to track trends. The Settling Defendant shall collect and analyze composite surficial soft sediment samples at least once every five years after completion of Upper River remediation to document changes in PCB SWAC. The soft sediment deposit sampling density will be selected so that each sample analyzed represents an area of approximately 250 square meters. In smaller deposits, more dense sampling may be performed, with individual samples composited for analysis. After the first monitoring event, U.S. EPA will determine if a representative subset of sediment deposits can be selected for future monitoring of soft sediment SWAC trends. The Settling Defendant shall inspect the remediated areas of the floodplains for evidence of erosion on a semiannual basis for two years following completion of the Upper River Remedial Action. If floodplain soils/river bank areas are remediated through stabilization instead of removal, the Settling Defendant shall inspect such areas annually for two years following completion of the Upper River Remedial Action, and every five years thereafter for 30 years. In addition, if previously armored areas are not removed, the Settling Defendant shall maintain the armoring and monitor its effectiveness for 30 years.

III. SCOPE OF REMEDIAL DESIGN AND REMEDIAL ACTION

The Upper River Remedial Design/Remedial Action shall occur in two phases. Phase I will consist of Remedial Design and Remedial Action work for the Plant Site and Source Materials. Phase II will consist of Remedial Design and Remedial Action work for the Soft Sediments and Floodplains. An exception to the phased approach is that a single Remedial Design Work Plan will be developed that addresses both the Plant Site and Source Materials and the Soft Sediments and Floodplains. Tasks 2-6 will be conducted separately for the two phases in accordance with the descriptions below and with the schedule in Section V.

Task 1: Remedial Design Work Plan

The Settling Defendant shall submit a Remedial Design (RD) Work Plan which shall document the overall management strategy for performing the pre-design investigations and design of the Upper River Remedial Actions for U.S. EPA review and approval. The plan shall document the responsibility and authority of all organizations and key personnel involved with the design and shall include a description of qualifications of key personnel directing the Remedial Design, including contractor personnel. The Work Plan shall also contain a schedule of Remedial Design activities. The Settling Defendant shall submit a Remedial Design Work Plan in accordance with § VI, Paragraph 11 of the Consent Decree and Section V of this URSOW.

The RD Work Plan shall include a project schedule for each major activity and submission of deliverables generated during the Remedial Design. The RD Work Plan shall include, at a minimum, a pre-design QAPP and a Field Sampling Plan. As part of the Remedial Design Work Plan, the Settling Defendant shall discuss how each component of the Upper River remedy will be addressed individually.

Task 2: Pre-Design Phase

The Settling Defendant shall implement the pre-design work in accordance with the final RD Work Plan. The Settling Defendant shall further investigate Tecumseh Products plant site ground-water and possible PCB sources and preferential pathways to the Sheboygan River. After the ground-water and additional source investigation has been completed, any remaining sources to the river from the Tecumseh Plant facility have been addressed, and EPA has issued a Notice of Authorization to Proceed consistent with Section II of this URSOW, the Settling Defendant shall recharacterize the soft sediment in the upper river to document the current PCB mass of the soft sediment deposits. The revised PCB mass figures shall be used to select the soft sediment deposits that will be removed to meet the PCB mass removal objective in Section II of this URSOW. The Settling Defendant shall also perform additional sampling in FPR-3, FPL-4, FPR-5, FPR-6, FPR-7, and FPL-8 to define further the extent of floodplain soils containing over 10 ppm PCBs. The results of the pertinent pre-design studies shall be included with the draft (50%) design. The Settling Defendant's pre-design sampling data shall be submitted in the electronic format referenced in Section II.B. (Recharacterization and Removal of Soft Sediment in the Upper River).

Task 3: Remedial Design Phases

The Settling Defendant shall prepare construction plans and specifications to implement the Remedial Actions at the Site described in this URSOW. Separate design plans and specifications shall be submitted

for Phase I and Phase II. Plans and specifications shall be submitted in accordance with the schedule set forth in Section V below. Subject to approval by U.S. EPA, Settling Defendant may submit more than one set of design submittals reflecting different components of the Remedial Action. Plans and specifications shall be developed consistent with U.S. EPA's Superfund Remedial Design and Remedial Action Guidance (OSWER Directive No. 9355.0-4A), except as otherwise specified in this URSOW, and shall demonstrate that the Remedial Action will meet the objectives of the Consent Decree and this URSOW, including all Performance Standards. Settling Defendant shall meet regularly with U.S. EPA to discuss design issues.

A. Draft Design (50%)

The Settling Defendant shall submit the Draft Design when the design effort is approximately 50% complete. The Draft Design submittal shall include or discuss, at a minimum, the following:

- Draft plans, drawings, and sketches, including design calculations;
- Results of additional field sampling;
- Design assumptions and parameters, including design restrictions, process performance criteria, appropriate unit processes for the treatment train, and expected removal or treatment efficiencies for both the process and waste (concentration and volume), as applicable;
- Sediment Removal Verification Plan (in appropriate phase), including the proposed cleanup verification methods (i.e., probing methods) and compliance with Applicable or Relevant and Appropriate Requirements (ARARs);
- Outline of required specifications;
- Proposed siting/locations of processes/construction activity;
- Mitigation Plan to restore habitats that have been physically impacted by sediment removal or soil excavation equipment (not including the soft sediment deposits themselves);
- Expected long-term monitoring and operation requirements;

- Real estate, easement, and permit requirements;

- Preliminary construction schedule, including contracting strategy.

B. Final Design (100%)

The Settling Defendant shall submit the Final Design when the design effort is 100% complete. The Final Design shall fully address all comments made to the draft (50%) Design and shall include reproducible drawings and specifications suitable for bid advertisement.

The Final Design submittals shall include those elements listed for the Draft Design, as well as the following:

- Final Field Sampling Plan;

- Draft Construction Quality Assurance Project Plan (CQAPP);

- Final H & S Plan;

- Final Sediment Removal Verification Plan (in appropriate phase);

- Draft Operation and Maintenance Plan;

- Contingency Plan;

- Capital and Operation and Maintenance Cost Estimate. This cost estimate shall refine the FS cost estimate to reflect the detail presented in the Final Design;

- Final Project Schedule for the construction and implementation of the Remedial Action which identifies timing for initiation and completion of all critical path tasks. The final project schedule submitted as part of the Final Design shall include specific dates for completion of the project and major milestones.

Task 4: Remedial Action Work Plan

The Settling Defendant shall submit separate Remedial Action Work Plans for the two phases of the Upper River Remedial Action. Each Work Plan shall include a detailed description of the remediation and construction activities. The Remedial Action Work Plans shall document the overall management strategy for performing the construction and operation of the Remedial Actions for U.S. EPA review and approval. The plans shall document the responsibility and authority of all organizations and key personnel involved with the implementation and shall include a description of qualifications of key personnel directing the Remedial Action, including contractor personnel. The RA Work Plans shall include a project schedule for each major activity and submission of deliverables generated during the Remedial Action. The Settling Defendant shall submit the Remedial Action Work Plans in accordance with § VI, Paragraph 12 of the Consent Decree and Section V of this URSOW.

Task 5: Remedial Action Construction

The Settling Defendant shall implement the Remedial Actions as detailed in the approved Final Designs. The following activities shall be completed in constructing the Remedial Actions.

A. Preconstruction inspections and meetings:

The Settling Defendant shall participate with the U.S. EPA in a preconstruction inspection and meeting to:

a. Review methods for documenting and reporting inspection data;

b. Review methods for distributing and storing documents and reports;

c. Review work area security and safety protocol;

d. Discuss any appropriate modifications of the construction quality assurance plan to ensure that site-specific considerations are addressed; and,

e. Conduct a Site walk-around to verify that the design criteria, plans, and specifications are understood and to review material and equipment storage locations.

The preconstruction inspection and meeting shall be documented by a designated person and minutes shall be transmitted to all parties.

B. Prefinal inspection:

Within 90 days after Settling Defendant makes a preliminary determination that the relevant phase of the Upper River Remedial Action is complete, the Settling Defendant shall notify the U.S. EPA for the purposes of conducting a prefinal inspection. The prefinal inspection shall consist of a walk-through inspection of the relevant portion of the site with U.S. EPA. The inspection is to determine whether the relevant phase of the Upper River Remedial Action is complete and consistent with the contract documents and the Consent Decree. Any outstanding construction items discovered during the inspection shall be identified and noted as set forth in Section XIII, Paragraph 45 of the Consent Decree.

C. Final inspection:

Within 90 days after completion of any work identified in the prefinal inspection, the Settling Defendant shall notify the U.S. EPA for the purposes of conducting a final inspection. The final inspection shall consist of a walk-through inspection of the relevant portion of the site by U.S. EPA and the Settling Defendant. The prefinal inspection shall be used as a checklist with the final inspection focusing on the outstanding construction items identified in the prefinal inspection. Confirmation shall be made that outstanding items have been resolved.

D. Reports

1. Progress Reports

As described in the Consent Decree, the Settling Defendant shall submit to the U.S. EPA monthly progress reports delineating the status of the site. The progress reports shall include:

I. Activities conducted during the period,
II. Problems encountered during the period,
III. Schedule variances and corrective actions, if necessary
IV. Projected Activities for the Next Period.

2. Completion of Remedial Action Report

Within sixty (60) days after the Settling Defendant concludes that the final phase of the Upper River Remedial Action has been fully performed and a final inspection has been completed as described above, the Settling Defendant shall submit a Completion of Remedial Action Report. In the report, a registered

professional engineer and the Settling Defendant's Project Coordinator shall state that the Upper River Remedial Action has been completed in full satisfaction of the requirements of this Consent Decree. The written report shall include as-built drawings signed and stamped by a professional engineer (if not previously submitted). The report shall contain the following statement, signed by a responsible corporate official of a Settling Defendant or the Settling Defendant's Project Coordinator:

> "To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

3. Completion of Work Report

Within 90 days after Settling Defendant concludes that all phases of the Upper River Work (including Upper River O & M), have been fully performed, Settling Defendant shall schedule and conduct a pre-certification inspection to be attended by Settling Defendant and EPA. EPA shall notify the State of the date the pre-certification inspection is scheduled and give the State the opportunity to attend. If, after the pre-certification inspection, the Settling Defendant still believes that the Upper River Work has been fully performed, Settling Defendant shall submit a written report by a registered professional engineer stating that the Upper River Work has been completed in full satisfaction of the requirements of this Consent Decree. The report shall contain the following statement, signed by a responsible corporate official of Settling Defendant or the Settling Defendant's Project Coordinator:

> "To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Task 6: Operation and Maintenance

The Settling Defendant shall prepare an Operation and Maintenance (O&M) Plan to cover long term maintenance of the Upper River Remedial Action. An initial Draft O&M Plan shall be submitted as a final Design Document submission for Phase II. The final O&M Plan shall be submitted to U.S. EPA prior to

the pre-final construction inspection for Phase II, in accordance with the approved construction schedule. The plan shall be composed of the following elements:

1. Description of normal maintenance;

    a. Description of tasks for maintenance;
    b. Schedule showing frequency of each O&M task; and

2. Description of routine monitoring and laboratory testing;

    a. Description of monitoring tasks;
    b. Description of required data collection, laboratory tests and their interpretation;
    c. Required quality assurance and quality control ;
    d. Schedule of monitoring frequency and procedures for a petition to U.S. EPA to reduce the frequency of maintenance or discontinue; and
    e. Description of sampling procedures.

3. Safety plan;

    a. Description of precautions, of necessary equipment, etc., for Site personnel; and
    b. Safety tasks required in event of systems failure.

4. Records and reporting mechanisms required.

    a. Personnel and maintenance records; and
    b. Quarterly, semiannual, or annual reports to EPA, as appropriate.

IV. CONTENT OF SUPPORTING PLANS

The documents listed in this section -- the Quality Assurance Project Plan, the Field Sampling Plan, the Health and Safety Plan, the Contingency Plan and the Construction Quality Assurance Plan -- are documents which must be prepared and submitted as outlined in Section III of this URSOW. The following section describes the required contents of each of these supporting plans.

A. Quality Assurance Project Plan

The Settling Defendant shall develop a Site specific Quality Assurance Project Plan (QAPP), covering sample analysis and data handling for samples collected in all phases of future Site work, based upon the Consent Decree and most recent guidance issued by U.S. EPA. The QAPP shall be consistent with the requirements of the EPA Contract Lab Program (CLP) for laboratories proposed outside the CLP. The QAPP shall at a minimum include:

Project Description

* Facility Location History
* Past Data Collection Activity
* Project Scope
* Sample Network Design
* Parameters to be Tested and Frequency
* Project Schedule

Project Organization and Responsibility

Quality Assurance Objective for Measurement Data

* Level of Quality Control Effort
* Accuracy, Precision and Sensitivity of Analysis
* Completeness, Representativeness and Comparability

Sampling Procedures

Sample Custody

* Field Specific Custody Procedures
* Laboratory Chain of Custody Procedures

Calibration Procedures and Frequency

* Field Instruments/Equipment
* Laboratory Instruments

Analytical Procedures

* Non-Contract Laboratory Program Analytical Methods

* Field Screening and Analytical Protocol
* Laboratory Procedures

Internal Quality Control Checks
* Field Measurements
* Laboratory Analysis

Data Reduction, Validation, and Reporting
* Data Reduction
* Data Validation (including percentage of data to be validated)
* Data Reporting

Performance and System Audits
* Internal Audits of Field Activity
* Internal Laboratory Audit
* External Field Audit
* External Laboratory Audit

Preventive Maintenance
* Routine Preventative Maintenance Procedures and Schedules
* Field Instruments/Equipment
* Laboratory Instruments

Specific Routine Procedures to Assess Data Precision, Accuracy, and Completeness
* Field Measurement Data
* Laboratory Data

Corrective Action
* Sample Collection/Field Measurement
* Laboratory Analysis

Quality Assurance Reports to Management

The Settling Defendant shall submit the draft QAPP to U.S. EPA for review and approval. The QAPP shall be designed to address all stages of the project from pre-design to post-removal sampling. If, because of the logistics of the project, the initial QAPP, developed as part of the RD Work Plan, does not lend itself to addressing all stages of the project, the QAPP shall be modified to incorporate any appropriate changes.

B. Health and Safety Plan

The Settling Defendant shall develop a health and safety plan which is designed to protect on-site personnel and area residents from physical, chemical, and other hazards posed by this remedial action. The safety plan shall develop the performance levels and criteria necessary to address the following areas.

Facility Description
Personnel
Levels of protection
Safe work practices and safe guards
Medical surveillance
Personal and environmental air monitoring
Personal protective equipment
Personal hygiene
Decontamination - personal and equipment
Site work zones
Contaminant control
Contingency and emergency planning
Logs, reports and record keeping

The safety plan shall follow U.S. EPA guidance and all OSHA requirements as outlined in 29 CFR 1910 and 1926. As part of the Health and Safety Plan, the Settling Defendant shall include a Contingency Plan describing procedures to be used in the event of an accident or emergency at the site. The Contingency Plan shall include, at a minimum, the following:

1. Name of the person or entity responsible for responding in the event of an emergency incident.

2. Plan and date(s) for meeting(s) with the local community, including local, State and Federal agencies involved in the cleanup, as well as local emergency squads and hospitals.

3. First aid medical information.

4. Air Monitoring Plan (if applicable).

5. Spill Prevention, Control, and Countermeasures (SPCC) Plan (if applicable), as specified in 40 CFR Part 109, describing measures to avoid, and contingency plans for, potential spills and discharges from materials handling and transportation.

C. Field Sampling Plan

The Settling Defendant shall develop a field sampling plan (as described in "Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA," October 1988). The Field Sampling Plan should supplement the QAPP and address all sample collection activities.

D. Construction Quality Assurance Plan

The Settling Defendant shall submit a Construction Quality Assurance Plan (CQAP) which describes the Site specific components of the quality assurance program. The CQAP shall provide procedures to help ensure that the completed project meets or exceeds the design criteria, plans, and specifications. The draft CQAP shall be submitted with the final design and the final CQAP shall be submitted with the RA Work Plan. The CQAP shall contain, at a minimum, the following elements:

1. Responsibilities and authorities of all organizations and key personnel involved in the design and construction of the Remedial Action.
2. Qualifications of the Quality Assurance Official to demonstrate that the official possesses the training and experience necessary to fulfill the identified responsibilities.
3. Protocols for sampling and testing used to monitor construction.
4. Identification of proposed quality assurance sampling activities including the sample size, locations, frequency of testing, acceptance and rejection data sheets, problem identification and corrective measures reports, evaluation reports, acceptance reports, and final documentation.
5. Reporting requirements for CQA activities shall be described in detail in the CQAP. This shall include such items as daily summary reports, inspection data sheets, problem identification and corrective measures reports, design acceptance reports, and final documentation. A description of the provisions for final storage of all records consistent with the requirements of the Consent Decree shall be included.

V. SUMMARY OF MAJOR DELIVERABLES/SCHEDULE

As noted in Sections II and III of this URSOW, the Settling Defendant shall use a phased approach to perform the RD/RA. Upper River soft sediment recharacterization work pursuant to the RD Work Plan will occur after the remedial action for the Plant Site and Source Materials (Phase I) is substantially complete and U.S. EPA has provided a Notice of Authorization to Proceed with Phase II remedial design and remedial action work. To the extent practicable, the schedule will also take winter weather conditions into account with respect to field and remedial work. All dates for initiation and completion of field work and remedial work are subject to weather conditions. A summary of the project schedule and reporting requirements for each phase of the Upper River Remedial Action contained in this URSOW is presented below.

Deliverable / Milestone	Due Date (calendar days)
RD Work Plan (both phases)	Ninety (90) days after receiving Notice of Authorization to proceed with RD
Monthly Progress Reports	As described in the Consent Decree and URSOW
Pre-Design Investigation for Plant Site and Nearshore Sediments	Initiate within forty-five (45) days after approval of RD Work Plan or entry of the Consent Decree, whichever is later.
Pre-Design Investigation for Soft Sediments/Floodplains	Initiate within forty-five (45) days after receipt of Notice of Authorization to proceed with soft sediment/floodplain pre-design investigations
Draft Design (50%)	One Hundred and fifty (150) days after completion of Pre-Design Activities for that phase
Final Design (100%)	Ninety (90) days after receipt of U.S. EPA's comments on the Draft Design for that phase
Award RA Contract(s)	Sixty (60) days after receipt of U.S. EPA's approval of Final Design for that phase
RA Work Plan	One hundred fifty (150) days after receipt of U.S. EPA's approval of Final Design for that phase
Pre-Construction Inspection	Within forty-five (45) days after receipt of U.S. EPA's approval of RA Work Plan and Notice of Authorization to Proceed with RA for that phase
Initiate Construction of RA	Within thirty (30) days after Pre-Construction Inspection and meeting for that phase
Completion of Construction	As approved by U.S. EPA in RA construction schedule included in RA Work Plan for that phase
Prefinal Inspection	No later than ninety (90) days after completion of construction of that phase
Final Inspection	Ninety (90) days after completion of work identified in prefinal inspection report for that phase
Completion of RA Report	Sixty (60) days after a successful final inspection for Phase II
Completion of Work Report	Ninety (90) days after a completion of the precertification inspection which addresses all phases of the Upper River work (including O&M)